

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application.

Listing of Claims:

Cancel claims 1-23.

Cancel claims 24-53.

Add claims 54-56 as follow:

Claim 54. A patient infusion system for use with a magnetic resonance imaging system, the patient infusion system comprising:

an infusion apparatus positioned within a room shielded from electromagnetic interference and operable to inject fluid into a patient during a magnetic resonance imaging procedure, the infusion apparatus comprising an injector and an injector control unit connected by a non-rigid drive connection, said injector control unit including a drive motor;

a system controller positioned external to the shielded room;

a communication control link between the system controller and the injector control unit, the communication control link adapted to be substantially non-reactive with the magnetic resonance imaging system during operation of the patient infusion system and the magnetic resonance imaging system to generate diagnostic images of the patient.

Claim 55. The patient infusion system of claim 54 wherein the communication control link comprises a fiber optic line.

Claim 56. The patient infusion system of claim 54 wherein the communication control link comprises means for transmitting and receiving electromagnetic energy through a window in the shielded room.

Cancel claims 57-58.

Add claim 59 as follow:

Claim 59. The patient infusion system of claim 54 wherein the communication control link transmits electromagnetic energy.

Cancel claims 60-61.

Add claims 62 as follows:

Claim 62. The patient infusion system of claim 54, wherein the infusion apparatus further comprises two drive mechanisms and is adapted to accommodate two syringes for injecting fluid into the patient during a magnetic resonance imaging procedure, each syringe being operably engageable with a respective one of the drive mechanisms.

Cancel claims 63-116.

Add claims 117-128 as follow:

Claim 117. The patient infusion system of claim 54, further comprising at least one battery for powering the infusion apparatus without substantial interference with the magnetic resonance imaging system.

Claim 118. A patient infusion system for use with a magnetic resonance imaging system, the patient infusion system comprising:

an infusion apparatus positioned within a room shielded from electromagnetic interference, the infusion apparatus comprising:

an injector adapted to accommodate two syringes mountable thereon for injecting fluid into a patient during a magnetic resonance imaging procedure;

two drive mechanisms, each drive mechanism comprising a drive motor and being engageable with a respective one of the two syringes; and

an injector control unit positioned within the shielded room;

a system controller positioned external to the shielded room; and

a communication control link between the system controller and the injector control unit, the communication control link adapted to be substantially non-reactive with the magnetic resonance imaging system during operation of the patient infusion system and the magnetic resonance imaging system to generate diagnostic images of the patient.

Claim 119. The patient infusion system of claim 118 wherein the drive motors are electric drive motors.

Claim 120. The patient infusion system of claim 118 wherein the injector control unit comprises a battery for powering the infusion apparatus.

Claim 121. The patient infusion system of claim 118 wherein each of the drive mechanisms includes a non-rigid drive connection.

Claim 122. The patient infusion system of claim 118 wherein the communication control link comprises a fiber optic line.

Claim 123. The patient infusion system of claim 118 wherein the communication control link comprises means for transmitting and receiving electromagnetic radiation through a window in the shielded room.

Claim 124. A patient infusion system for use with a magnetic resonance imaging system, the patient infusion system comprising:

a) a room shielded from electromagnetic interference;

b) a system controller external to the shielded room;

c) a patient infusion apparatus within the shielded room and including infusion apparatus control means for controlling an infusion operation;

d) the patient infusion apparatus further including two drive mechanisms each including a drive motor, and an injector adapted to accommodate two syringes mountable thereon for injecting fluid into a patient during a magnetic resonance imaging procedure, each of the syringes operably engageable with a respective one of the drive mechanisms; and,

e) a communication control link between the system controller and the infusion apparatus control means, the control link adapted to be substantially non-reactive with the imaging system.

Claim 125. The patient infusion system of claim 124, wherein the communication control link transmits electromagnetic energy.

Claim 126. The patient infusion system of claim 124, wherein the communication control link includes means for transmitting and receiving infrared electromagnetic energy.

Claim 127. The patient infusion system of claim 124, wherein the communication control link includes means for transmitting and receiving electromagnetic energy in the visual range.

Claim 128. The patient infusion system of claim 124, wherein the room shielded from electromagnetic interference includes a viewing window; and wherein the communication control link includes means for transmitting and receiving electromagnetic energy through the viewing window.